

Application No. 10/584,698
Amendment Dated September 29, 2011
Reply to Office Action Dated October 14, 2011

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A device for depositing a layer based on polycrystalline silicon onto a substantially plane, elongate, moving support having two longitudinal faces and two longitudinal side edges, the device comprising:

a crucible containing a bath of molten silicon, said support being designed to be dipped at least in part in the bath and to pass substantially vertically in its long direction through the equilibrium surface of the bath; and

at least one edge control element, each edge control element being maintained substantially vertically close to one of the two longitudinal side edges so that the level of the bath raises over each longitudinal face of the support:

each edge control element comprising walls defining a longitudinal slot beside the corresponding longitudinal side edge, each slot being dipped in part in the bath so as to raise the level of the bath by capillarity in the vicinity of the corresponding longitudinal side edge,

wherein at least one of the walls, referred to as an "insertion" wall, facing part of one of the longitudinal faces, is substantially plane.

2. (previously presented) A device according to claim 1, for depositing a layer based on

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polycrystalline silicon and comprising two edge control elements, in which each edge control element includes two substantially plane insertion walls.

3. (previously presented) A device according to claim 2, for depositing a layer based on polycrystalline silicon, the device being wherein the insertion walls are either parallel or else outwardly flared.

4. (previously presented) A device according to claim 2, for depositing a layer based on polycrystalline silicon, wherein the mean depth of each slot is less than 1 cm.

5. (previously presented) A device according to claim 2, for depositing a layer based on polycrystalline silicon, wherein the mean spacing between the insertion walls is less than 7 mm.

6. (previously presented) A device according to claim 2, for depositing a layer based on polycrystalline silicon, wherein the crucible has a bottom and side walls, and each of the edge control elements being stationary and held vertically by the bottom.

7. (previously presented) A device according to claim 2, for depositing a layer based on polycrystalline silicon, wherein the crucible has a bottom and side walls, and each of the edge control elements extend longitudinally to the bottom and preferably forms a monolithic structure with the bottom.

8. (currently amended) A device according to claim 7, for depositing a layer based on polycrystalline silicon, wherein each of the edge control elements presents at least one orifice dipped in the bath and suitable for feeding silicon to said element, the orifice being preferably of millimeter order ~~and situated close to the bottom.~~

9. (currently amended) A device [[(300)]] according to any one of claims 2 to 6, for depositing a layer based on polycrystalline silicon, the device being characterized in that each of the edge control elements [[(15, 15')]] comprises a plate including slot [[(154, 154')]], the plate being brought into contact with the equilibrium surface [[(21)]] of the bath.

10. (previously presented) A device according to claim 9, for depositing a layer based on polycrystalline silicon, wherein contact with the surface of the bath takes place by means of a connection between the plate and displacement means external to the crucible, and preferably allowing vertical displacement only.

11. (previously presented) A device according to claim 9, for depositing a layer based on polycrystalline silicon, wherein each plate has a disk including said slot and presenting an effective diameter greater than 10 mm, and preferably equal to about 12 mm.

12. (previously presented) A device according to claim 9, for depositing a layer based on

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polycrystalline silicon, wherein the mean spacing between the insertion walls is about 2 mm.

13. (previously presented) A device according claim 1, for depositing a layer based on polycrystalline silicon, wherein each of the edge control elements is made of a material that does not react with silicon and that is preferably selected from graphite, silicon carbide, and silicon nitride.

14. (previously presented) A device according claim 1, for depositing a layer based on polycrystalline silicon, wherein each of the edge control elements is made of a material presenting emissivity greater than the emissivity of silicon.